GUARANTEE AND CONTACT DETAILS

GUARANTEE

Terms and Conditions for UK (outside UK contact your local distributor)

We, Applied Energy Products Limited, guarantee this product **for domestic use only,** for the period of 24 months from the date of purchase.

Within the guarantee period we will resolve, **free of charge,** any manufacturing defects in the product resulting from faulty workmanship or material on condition that:-

a) The appliance has been correctly installed in accordance with our instructions and is being used on the supply circuit or voltage printed on the rating plate.

b) The appliance has been used in accordance with these instructions and has not been tampered with or otherwise subject to misuse, neglect or accident.

c) The appliance has not been taken apart, modified or repaired except by a person authorised by us.

d) Evidence of the date of purchase in the form of an invoice or receipt will be required in order to qualify for an in-guarantee repair.

e) The guarantee period for the products used in commercial applications will be limited to 12 months.

f) For the service work to be undertaken free of charge, the work must be only undertaken by Applied Energy Products Limited, or our approved agents.

g) Service under guarantee has no effect on the expiry date. The guarantee on any exchanged parts or product ends when the original guarantee period ends.

EXCLUSIONS

This guarantee **DOES NOT** cover damage or defects arising from poor or incorrect installation, improper use or lack of maintenance, including build-up of limescale. It is the responsibilty of the installer to check that the installation parameters meet the requirements of the product, and any relevant regulations.

If we are called out to a fault, which is subsequently identified as being an installation fault, we will make a charge. It is important that the routine checks are completed before calling us out, as many issues can be simply diagnosed and resolved.

We make no guarantees as to response times for repairs. We will endeavour to achieve the most timely response possible but while we indicate an average response time, this should not be taken as a guarantee.

The guarantee applies to a repair or replacement (at our discretion) of the product subject to the conditions above, and **DOES NOT** cover compensation for the loss of the product or consequential loss of any kind.

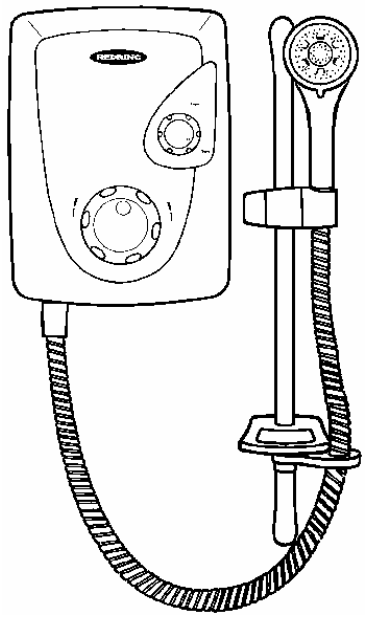
The guarantee does not apply to the repair or replacement of pressure relief devices, sprayheads, hoses, accessories, isolating switches, electrical cable, fuses and/or circuit breakers.

This guarantee does not affect your statutory rights.

APPLIED ENERGY PRODUCTS LIMITED, MORLEY WAY, PETERBOROUGH PE2 9JJ
TEL: +44 (0) 844 372 7761 / FAX: +44 (0) 844 372 7762
WEBSITE: www.redring.co.uk

We offer a technical advisory service on the telephone: Ring: 0844 372 7766

(A4) Leaflet No. 559-2333-03C



REDRING EXPRESSIONS 520 Manual and Thermostatic Power Shower Units

Installation and User Guide

IMPORTANT:
This booklet should be left with the user after installation and demonstration

WARNING:
Under no circumstances should this unit be connected to the mains cold water supply

Thank you for purchasing a quality *Redring Expressions 520 Power Shower* manufactured in England.

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To enjoy your new shower at its best, please take time to read this manual thoroughly to familiarise yourself with all instructions, BEFORE beginning installation.

If you experience any difficulty with the installation or operation of your new shower, then please refer to the "What to do if things go wrong" section in this manual before contacting us.

IMPORTANT SAFETY INFORMATION

1. Your shower has been designed for convenience, economy and safety of use, provided that it is installed, used and maintained in good working order and in accordance with our instructions and recommendations.
2. **All wiring and installation must be supervised by a suitably qualified person.**
3. **THIS APPLIANCE MUST BE EARTHED.**
4. The *Redring Expressions 520* power shower is designed to **boost the flow of stored domestic water, which is gravity fed from a static cold water cistern and hot water cylinder. Under no circumstances should this unit be connected directly to the mains cold or hot water supplies.**
5. The cold water cistern should have a minimum capacity of 114 litres (25 gallons). There must be a **minimum head of water of 8cm (3") and a maximum head of 10m (33ft)** between the bottom of the cold water cistern and the top of the shower unit. **Under no circumstances should any of the pipework supplying the shower unit rise above the level of the bottom of the cold water cistern.**
6. The *Redring Expressions 520* power shower incorporates a motor that is designed for intermittent use, and therefore, should NOT be used continuously for long periods of time. **The maximum length of time for any shower should not exceed 15 minutes. A rest period of 45 minutes is then required to allow the motor to cool down.**
7. The installation must be in accordance with the current edition of BS.7671 (*the "IEE Wiring Regulations")* and "Part P" of the *"Building Regulations"* in force at the time of installation. Installations outside England and Wales must also conform to any local regulations in effect. This appliance is intended to be permanently connected to the fixed electrical wiring of the mains supply with its own dedicated supply.
8. This appliance must **NOT** be fitted where it may be subjected to freezing conditions
9. **DO NOT** switch the appliance on if you suspect it of being frozen. Wait until you are sure it has thawed out.
10. Isolate the mains electrical and water supply before removing the front cover of the appliance.

REDRING AFTER SALES SERVICE

We offer a technical advisory service on the telephone to installers and other customers with problems in the field. **RING 0844 372 7766**

Remember to quote the exact type of shower, as written on the front of the shower and on this leaflet. The model and serial number are located on the bottom face of the shower. Make a note of those numbers here, and be sure to quote them if you call for advice.

Model Number: _ _ _ _ _ _ _ _ _ _ _ _ _ ***Serial Number:*** _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Note: You may be charged for a service call if you do not have the serial number.

FILTER REMOVAL AND REFITTING

Inlet filters have been incorporated in the design of the *Redring Expressions 520* power shower which protects the internal mechanisms of the shower unit and the handset. If the performance of the shower deteriorates (ie flow reduction occurs) then it may be necessary to clean the filters.

WARNING: SWITCH OFF THE ELECTRICITY AT THE LOCAL ISOLATOR BEFORE REMOVING THE COVER TO MAKE CHECKS

Remove the shower cover as detailed in note 7 on page 4. The cover will be connected to the PCB via a floating lead. Carefully pull the lead from the PCB.

DO NOT let the front cover hang by the lead as this will damage the PCB.

The filters are positioned in the inlet housing (Diagram 12). Remove 2 fixing screws and the filter cap from the housing and remove both filters. Wash thoroughly under running water and replace in housing. Ensure that both "O"-Ring seals are fitted to the filter cap and reassemble cap using 2 fixing screws.

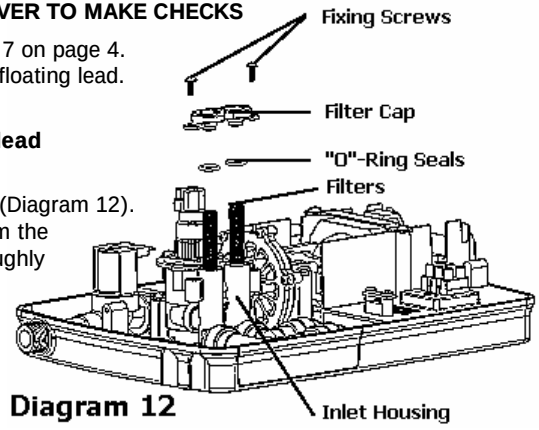


Diagram 12

It may be necessary to re-prime the shower unit after the filters have been cleaned. Please refer to the commissioning procedure (see page 7).

Refit the front cover and Temperature Control Knob "B" as described in the commissioning procedure

ASSEMBLY OF ACCESSORIES

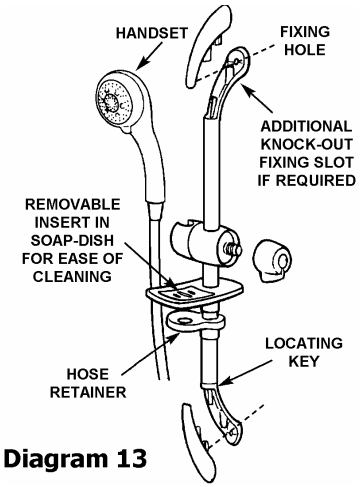


Diagram 13

WHAT TO DO IF THINGS GO WRONG (1)

SELF HELP

If the shower is not working satisfactorily, make the following checks before calling out the installer. Any one of these adjustments could restore the performance.

System will not operate	Check that the mains electricity supply is switched on.
Pump operates but no water is delivered	Check water is available to both ports, and that all isolating valves are open. Check for an air-lock in the pump chamber.
Water too COLD	Turn Temperature Control Knob "B" anti-clockwise in the direction of the "red arrows" (Diagram 10). Check that hot water is available in the hot water cylinder. The ideal thermostat setting for the hot water storage cylinder is 60°C (140°F). Check that the HOT water isolating valve is open. If possible, reposition temperature limiting device so that more movement of knob "B" is allowed.
Water too HOT	Turn Temperature Control Knob "B" clockwise in the direction of the "blue arrows" (Diagram 10). Check that the COLD water isolating valve is open.
Spray pattern poor	Clean the shower handset. Select an outer/inner spray pattern.
Broken parts	Please contact our spares department on 0844 372 7750

WHAT TO DO IF THINGS GO WRONG (2)

PROFESSIONAL SERVICE

If the previous "Self Help" checks fail to restore the performance, you should seek professional help.

The person who installed the shower is probably the best one to investigate and correct it and is certainly the person to contact if you have had a problem in the guarantee period.

The following additional checklist is provided for the benefit of the qualified service person.

WARNING: SWITCH OFF THE ELECTRICITY AT THE LOCAL ISOLATOR BEFORE REMOVING THE COVER TO MAKE CHECKS

Pump operates but no water is delivered	Check the inlet connections to the mixing chamber are piped correctly. Check that the shower and all pipe work are sited below the level of the cold water tank and that it is fully primed and is therefore not air-locked. (See commissioning procedure on page 7).
Pump operates when motor is switched off	Check for faulty potentiometer switch, located under knob "A" inside front cover. Switch should be open circuit when turned fully anti-clockwise.
Water too hot	Blockage in filter causing obstruction in water supply. Check and clean (see page 11).
Water too cold	Blockage in filter causing obstruction in water supply. Check and clean (see page 11).
Poor temperature adjustment	Check the hot and cold water supplies are delivered to the correct ports. Check that water is supplied to the shower unit at balanced pressures (ie Hot and Cold water are supplied from the same header tank). Ensure cold water supply is not taken from mains.
Unit does not prime	Check that the shower and all pipe work are sited below the level of the cold water tank.
Poor flow rate	Check for any restrictions in the Ø15mm supply (reduced diameters even for short distances). Check that pressure is not being lost to other services in the dwelling. Check filter for obstructions in the water supply and clean if necessary.

HOW TO INSTALL YOUR *EXPRESSIONS 520* POWER SHOWER

WARNING: ALL WIRING AND INSTALLATION MUST BE SUPERVISED BY A SUITABLY QUALIFIED PERSON.

WARNING: DO NOT INSTALL THIS SHOWER WHERE IT MAY BE SUBJECTED TO FREEZING CONDITIONS

We recommend that the installation is done in the following sequence.

a. Fixing the shower to the wall b. Plumbing c. Electrical connections d. Commissioning

a. FIXING THE SHOWER TO THE WALL

The *Redring Expressions 520* power shower is fitted with a motor and some mechanical noise can be expected when in use. The type of wall structure will affect the noise levels. Solid walls will provide quieter operation than panel or stud walls.

1. Position the riser rail at a convenient height for the majority of users as detailed in Diagram 1 and mark its position.
2. Position the unit so that the top of the unit is horizontal and that all controls can be comfortably reached whilst the shower is being used.
   Ensure correct orientation of the shower unit ie: mounted as shown in Diagram 1.
   Choose a flat piece of wall to avoid the possibility of distorting the backplate thus making the front cover a poor fit.
3. Adjust the position to get the most convenient arrangement taking the following into account.
   - **The unit must not be mounted in the direct spray from the handset.**

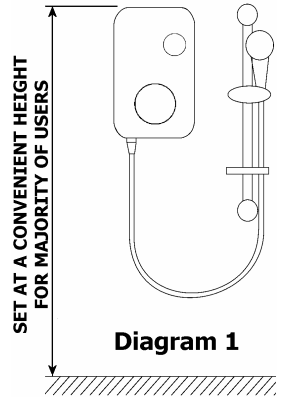


Diagram 1

4. Fix the riser rail with screws provided.
   The fixing holes at the base of the brackets will be revealed by removing the plastic fronts.
   Assemble as shown in Diagram 13.
5. Decide the position of the electrical cable into the unit.
   If top or bottom entry is chosen, cut away the walls in the backplate as shown in Diagram 2.
6. Decide the position of entry of the cold water pipes into the unit.
   If top or bottom entry is chosen, carefully cut away the relevant walls of the backplate as shown in Diagram 2.
   If bottom entry is chosen, refer to note 9 in the plumbing section.

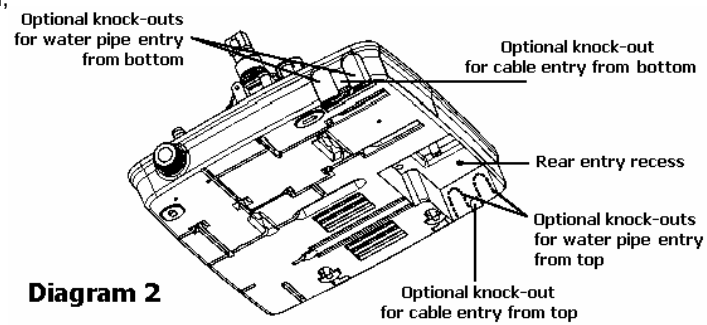


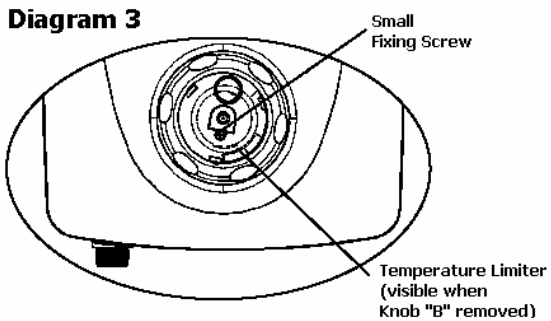
Diagram 2

7. If you have not yet done so, remove the front cover assembly by undoing the retaining screws at the top and bottom of the unit. Remove Temperature Control Knob “B” Cap (see Diagram 10) by levering out carefully with a small flat bladed screwdriver and remove the small fixing screw as shown in Diagram 3.

   Your shower is provided with 4 fixing positions in the backplate (Diagram 11). The top-fixing holes are “key-hole” slots and the most convenient should be marked and drilled first.

   Tighten top screw with head protruding about 10mm from the wall and hook the backplate over the screw head. This allows for correct and accurate alignment of your shower before marking and fixing the bottom position.

Diagram 3



   You may not wish to tighten up both screws at this stage as the holes are elongated to allow for adjustment after other connections have taken place.

b. PLUMBING

WARNING: UNDER NO CIRCUMSTANCES SHOULD THIS UNIT BE CONNECTED TO THE MAINS COLD WATER SUPPLY.

The unit must be connected to a cold water supply gravity fed from a static cold water cistern with a minimum capacity of 114 litres (25 gallons).
There must be a **minimum** head of water of 8cm (3”) and a **maximum** head of 10m (33ft).

It is strongly advised to install the shower unit using an independent supply from the cold water storage cistern and hot water cylinder.
The shower would be totally unaffected by the other draw off points elsewhere in the system and thus the pressure and temperature will remain more stable.
Therefore, the cold water supply should be taken directly from the cold water cistern and the hot water supply should be taken from the hot water cylinder via an Essex or Surrey Flange (Diagram 4)

Under no circumstances should any of the pipework supplying the shower unit rise above the level of the bottom of the cold water cistern.

Before connecting the pipework to the shower ensure that the pipework is flushed out.

1. Surrey Flange (Top entry cylinder flange) Fitting Instructions.
   The hot connection to the shower unit can be taken directly from the hot cylinder using a Surrey Flange. Diagram 4 shows how this flange should be fitted.

2. Essex Flange (Side entry cylinder flange) Fitting Instructions.
   Alternatively, the hot connection to the shower can be taken directly from the hot cylinder using an Essex cylinder flange and extension pipe. Diagram 4 shows how this flange should be fitted.
   Connecting direct to the side of the cylinder is not recommended where a top entry immersion heater is fitted.

3. The hot connection can also be taken from the hot supply to other outlets as in Diagram 5.
   The connection must be made below the ventilation tee.

4. The thermostat on the hot water cylinder should ideally be set at 60°C.
   The maximum permissible inlet temperature is 65°C.

HOW TO MAINTAIN YOUR *EXPRESSIONS 520* POWER SHOWER

It is recommended that the shower unit and hose etc. be cleaned using a soft cloth and that the use of abrasive or solvent based cleaning fluid be avoided, especially on any plated finishes.
We recommend that before any cleaning, the isolating switch be turned off, thus avoiding accidentally switching on the shower.

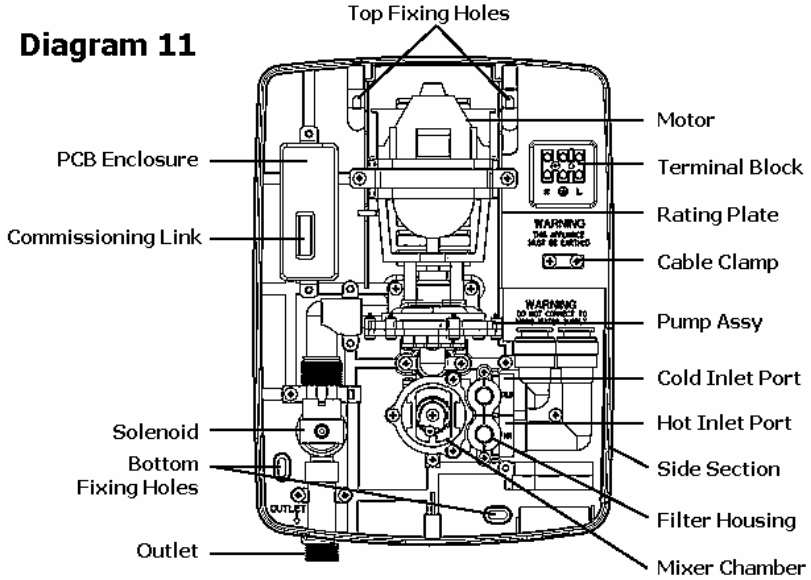
WARNING: YOU MUST REGULARLY INSPECT THE SHOWER HOSE FOR WEAR AND DAMAGE. REPLACE IF NECESSARY, OR EVERY TWO YEARS, WITH AN APPROVED PART.

WARNING: IN ORDER TO MAINTAIN THE PERFORMANCE OF YOUR SHOWER, YOU MUST CLEAN THE SHOWER HANDSET REGULARLY

All water contains particles of lime-scale, which build up in the shower handset and unit reducing the performance.
It is therefore important to clean the shower handset by soaking in proprietary lime-scale remover ensuring it is rinsed thoroughly before use.

NOTE: After use it is normal for some water to drip from the shower handset for a few moments. This inhibits scale build-up over prolonged use.

Diagram 11



ADDITIONAL ACCESSORIES

White 2 metre Shower Hose	Cat No. 83792578
1 metre Riser Rail	Cat No. 83595313
Curtain and Rail Pack	Cat No. 83792812
Curtain and Rail Pack with Non-Slip Bath Mat	Cat No. 83792811

Additional accessories and spare parts can be supplied against any Credit or Debit cards
Ring: 0844 372 7750

COMMON SPARE PARTS

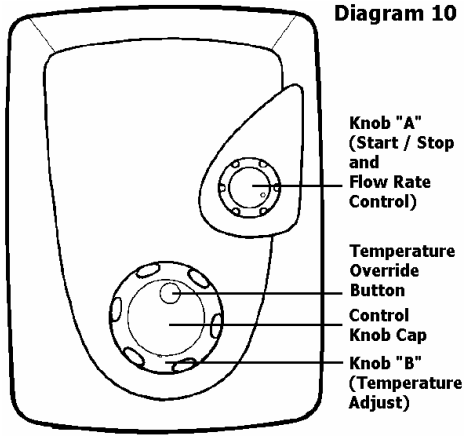
Please Note:- The fitting of Spare Parts must be supervised by a suitably qualified person.

Front Cover (520M)	Cat No. 93797625
Front Cover (520TS)	Cat No. 93797626
Pump Motor Assy	Cat No. 93797636
Control Knob	Cat No. 93797627
Control Knob (Small)	Cat No. 93797628
Potentiometer Assy	Cat No. 93797629
Filter Pack	Cat No. 93797632
1.25m Chrome Hose	Cat No. 93797641
Combined Inlet Elbow	Cat No. 93797631
Motor Bush Pack	Cat No. 93797637

HOW TO USE YOUR *EXPRESSIONS 520* POWER SHOWER

1. Ensure the electricity and water are turned on to the unit.
2. Your shower has 2 control knobs (Diagram 10).
   Knob "A" controls the Start/Stop operation and the water flow rate of the shower unit.
   Knob "B" controls the temperature of water and also incorporates a temperature limiter.
3. To **start** the shower **turn knob "A" clockwise** from the STOP position.
   Adjust the control until a satisfactory flow rate is achieved.
   For maximum flow, turn knob "A" fully clockwise.
4. To adjust the temperature, turn knob "B" clockwise in the direction of the "blue arrows" for a cooler shower and anti-clockwise in the direction of the "red arrows" for a warmer shower. Please allow time for the hot water to reach the shower unit from the storage cylinder.

Diagram 10



Note: It is recommended that you test the water temperature with your hand before stepping under the water spray, even if the shower has just been used.

IF WATER IS TOO COLD	IF WATER IS TOO HOT
Turn knob "B" anti-clockwise in the direction of the "red arrows" a small amount and continue turning clockwise until you get the water temperature of your liking.	**Turn knob "B" clockwise** in the direction of the "blue arrows" a small amount and continue turning anti-clockwise until you get the water temperature of your liking.
Wait 10 seconds after each adjustment for the water temperature to stabilise.	**Wait 10 seconds** after each adjustment for the water temperature to stabilise.
The final adjustment may be anywhere on the scale.	The final adjustment may be anywhere on the scale.

5. To **stop** the shower, **turn knob "A" fully anti-clockwise** to the **"Stop"** position.
6. Switch off the electricity at the ceiling switch or local isolator.
7. As a safety feature, a temperature limiter is provided so that the maximum working temperature of the shower unit can be set.
   The limiter is factory set, but can be adjusted to suit on site conditions. If the position of the limiter requires adjustment please refer to the section in the commissioning procedure (page 7).
8. To override the STOP position of the limiter, press the button on knob "B" and continue turning knob "B" anti-clockwise in the direction of the "red arrows" until the desired temperature is reached.
9. If the temperature limiter has been overridden, knob "B" **MUST** always be returned to the normal temperature range when the shower is switched off. To do this, simply turn knob "B" clockwise past the limier position. The button does not need to be depressed when returning to the normal temperature range.
10. There are a number of defined spray setting provided by the handset.
    The handset spray plate can be turned in either direction to change the spray pattern.

5. In all cases a dedicated cold water supply should be taken from the cold water cistern to the shower unit.
   The connection in the cistern should be made below the level of the cold water feed to the hot water cylinder.
   The connection should also be on the opposite side of the cistern to the float valve.
   This will prevent air being sucked into the pump chamber.

Diagram 4

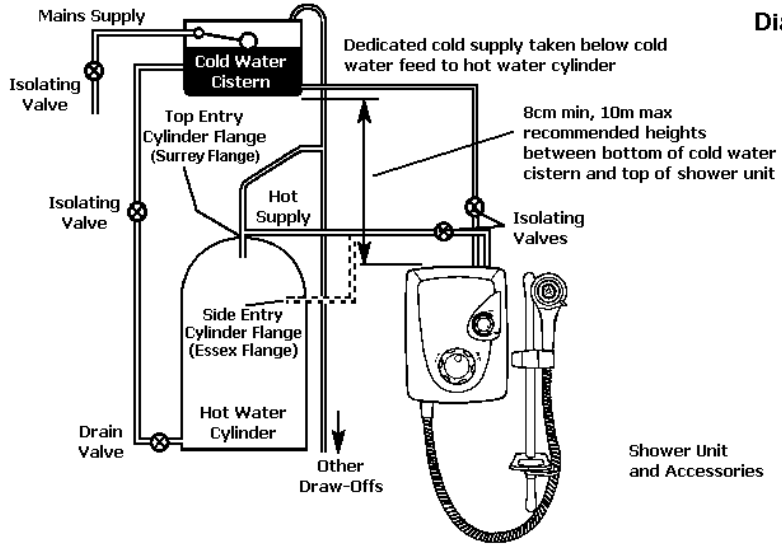
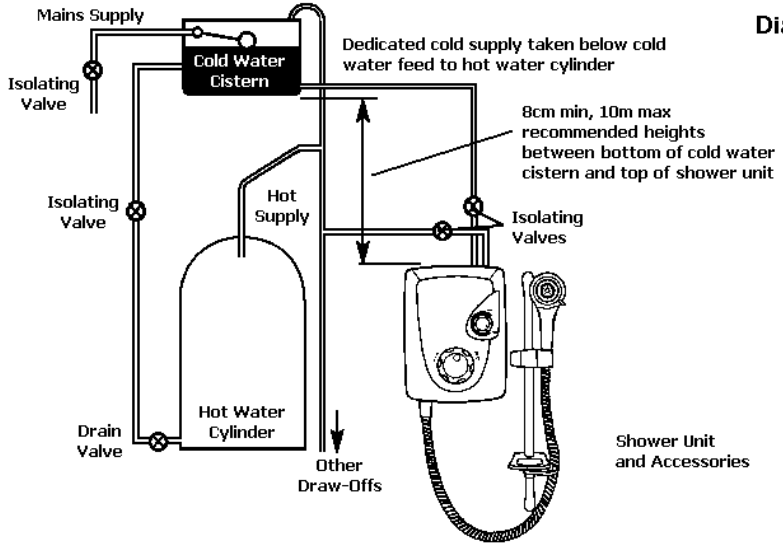


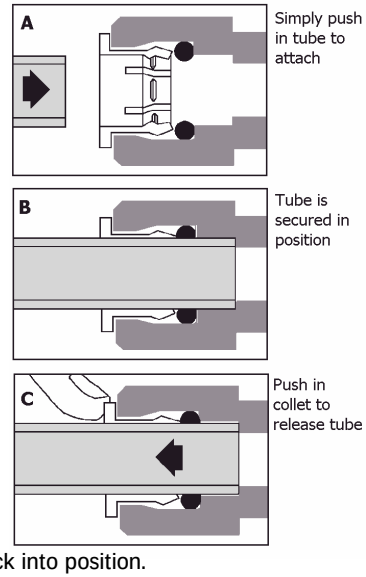
Diagram 5



6. It is recommended that isolating valves are fitted between the cold water storage cistern and the shower unit and between the hot water cylinder and the shower unit (Diagrams 4 & 5).
   This will allow the unit to be serviced or exchanged without turning off the cold water at the water stop valve and draining the cold water cistern.

7. Ø15mm copper pipe should be used.
   Ensure all burrs have been removed from the pipes before inserting into the push fit inlet ports.
   Diagram 7 illustrates the correct procedure for inserting and removing the pipes from the inlet ports.
   Take care to line up the inlet pipe correctly with the inlet port to avoid straining the internal "O"-Ring seal.
   DO NOT use solder fittings within 300mm of plastic fittings.
   DO NOT insert fingers into the push-fit inlet ports. Doing so could result in injury

Diagram 7

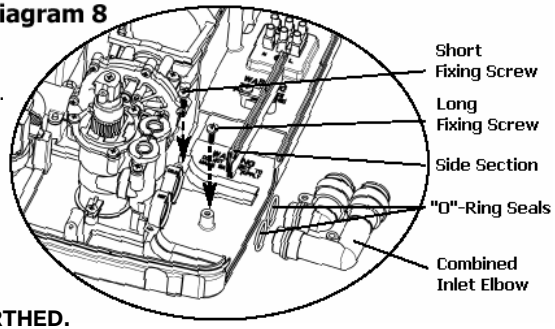


8. To maintain the optimum performance, the pipe runs should be kept as short as possible, using sweeping bends rather than right angles or restrictive fittings.

9. If bottom entry has been chosen, the inlet port must be rotated through 180° into the required position.
   To do this, unscrew the combined inlet elbow (Diagram 8) and remove the side section from the shower unit.
   Remove combined elbow and rotate for bottom entry.
   Slide back into position ensuring that the "O"-Ring seals are correctly in place. Please note HOT and COLD marking.
   Replace the side section and tighten 2 screws in elbow to lock into position.

10. With isolating valve connected, **flush the pipe work through to remove any particles etc**, before making the final connection to the shower. Blockage in the water ways (particularly the handset and filters) will prevent the shower unit working properly.
    Note: You may be charged for a service call if it is due to incorrect installation.

Diagram 8



c) ELECTRICAL

WARNING: THIS SHOWER MUST BE EARTHED.

1. The electrical installation must be in accordance with the current BS.7671 (IEE Wiring Regulations) and "Part P" of the Building Regulations and/or local regulations
2. A means for disconnection in all poles must be incorporated in the fixed wiring in accordance with the wiring rules. We recommend a ceiling switch mounted in a convenient position.
3. For additional safety, it is recommended that a RDC be used.
4. We recommend using 1.0mm² Twin and Earth cable for this application.
   Connect the mains cable in to the terminal block, ensuring that all power is switched off before connecting to the mains supply.
   Recommended order:-
   i) Strip back wire approximately 6.0mm.
   ii) Ensure wires are secure in the correct terminal block holes.
   iii) Ensure that the mains cable is securely clamped in the cable clamp provided on the backplate.

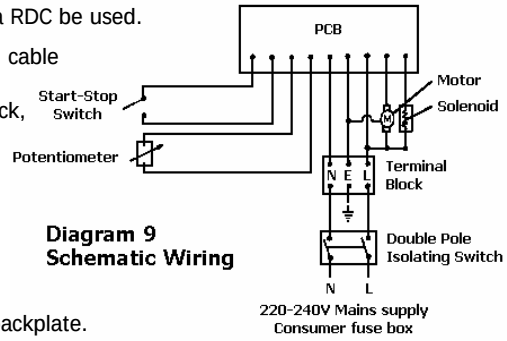


Diagram 9
Schematic Wiring

d) FINAL INSTALLATION PROCEDURE AND COMMISSIONING

WARNING: DO NOT SWITCH ON THE ELECTRICITY SUPPLY UNTIL THE FOLLOWING PROCEDURE HAS BEEN COMPLETED. FAILURE TO DO SO COULD CAUSE THE PUMP TO RUN DRY AND INVALIDATE THE GUARANTEE

1. Fit the hose to the shower unit outlet first without the handset to flush out any remaining debris. Ensure that the water isolating valves are fully open and that the hose is directed to waste.
2. The shower unit is factory set in the commissioning mode. A commissioning link is connected to the PCB (Diagram 11), which opens the solenoid without switching on the motor.
   This allows water to flow through the pump, thus ensuring that all air is removed.
   The cover is not required to be fitted at this stage but **be aware of live parts** when the electricity is temporarily switched on.
3. Switch on electricity supply. After a few moments water should drip from the hose.
   It may be necessary to hang the hose from the shower unit whilst priming, especially if the head of water is minimal. This will speed up the priming process.
   When water drips through the hose at a constant rate, stop flow of water by switching off the electricity supply.
   Ensure electricity is switched off.
   Remove PCB Commissioning Link and replace with the connector attached to the front cover start/stop/flow control switch.
   Store commissioning link in a safe place for future use.
4. Ensure side section is on place (Diagram 11).
   Refit cover using 3 fixing screws and attach handset to shower hose.
5. A temperature limiter is provided so that the maximum working temperature can be set. The limiter is factory set, but can be adjusted depending on incoming water conditions.
   The limiter is visible when Temperature Control Knob "B" is removed (Diagram 3).
   Gently prise away the limiter from the front cover and rotate to new position.
   Rotate clockwise for a cooler stop position and anti-clockwise for a warmer stop position.
   Ensure that the limiter is pressed firmly home. Re-assemble Temperature Control Knob "B" over the drive on the mixer unit and fix into place with a screw.
   Check that its movement is restricted sufficiently. Also check operation of temperature over-ride button (Diagram 10). Re-fit control knob cap by positioning correctly and pressing firmly home.
6. Switch on the electricity supply and then operate the shower as shown on page 8 and check:-

a. The shower switched on when the flow control knob "A" is rotated and that flow is adjustable.
b. Temperature can be adjusted by knob "B" and the limiter position is satisfactorily ie: NOT hot enough to scald.
c. Operation of over-ride button allows the temperature limiter position to be overridden.
d. Check again for leaks.
e. That the motor turns off and water stops flowing in the STOP position of knob "A".

7. PLEASE DEMONSTRATE OPERATION TO USERS

IMPORTANT WARNINGS!

THIS APPLIANCE IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN AND THE INFIRM) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE, UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE BY A PERSON RESPONSIBLE FOR THEIR SAFETY.

CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE APPLIANCE.